

# INGENIUM

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Department Newsletter

Department of Mechanical Engineering



**AJ Institute of Engineering and Technology,**

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## Message from Editor's Desk:

Welcome to second issue of Newsletter from the Department of Mechanical Engineering. This newsletter is a digital way for us to communicate with our students, faculty members, alumni and industrial partners. It aims to showcase the glimpse of the departmental activities and achievements. It enlightens the readers about the latest happenings in the department, focusing about different activities like placement, industry-academia, club activities, student and faculty achievements.

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Mr. Chirag P

Mr. Harshith Shetty

## HOD's Message:



It gives me great pleasure to congratulate students and staff of Mechanical department for the second publication of newsletter. Newsletter is believed to be a focus of the inside activities i.e. academics, students and faculty achievement as well as innovation occurring in the department. In the era of engineering and technology this newsletter will motivate the staff and students of sharing their creativity and new ideas with the world and will help in their overall development. I wish best of luck for all the team members for publication of newsletter.

### Dr. Rajesh Rai P

HOD, Department of Mechanical Engineering  
AJ Institute of Engineering and Technology,  
Mangaluru

## VISION

To create globally competent and self-reliant mechanical engineers adaptive to an interdisciplinary environment contributing to society through development, authority and entrepreneurship.

## MISSION

- To offer high quality graduate programme in the fields of Mechanical Engineering with value education to the students and make them responsive to societal needs.
- To nurture the students with a global outlook for a sustainable future with high moral and ethical values.
- To strengthen collaboration with industries academia and research organizations to enrich learning environment, thus enhance research and entrepreneurship culture.
- To create awareness about the need of interdisciplinary applications through alumni industry-institution interactions.

## Program Educational Objectives (PEOs)

**PEO1:** Prepare graduates with mathematical, scientific and engineering skills to design and develop energy efficient systems for sustainable development.

**PEO2:** Excel graduates with high level of technical competency combined with research and complex problem solving ability to generate innovative solutions in Mechanical and multi-disciplinary areas.

**PEO3:** Equip students with modern tools, technology and advanced software's for deliberating engineering solutions.

**PEO4:** Inculcate graduates with strong foundation in academic excellence, soft skills, leadership qualities, professional ethics, and social concerns and understand the need for lifelong learning for a successful professional career

## Program Outcomes (POs)

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3. Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- 5. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- 6. The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7. Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**11. Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**12. Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## Program Specific Outcomes (PSOs)

**PSO1:** Apply the knowledge of modern engineering tools to design and Analyse the products and processes related to mechanical engineering system.

**PSO2:** Develop technical and interpersonal skills pertinent to mechanical and allied engineering for careers in industry, academia and government organisations.

## Research

Domain Name	Domain Co-coordinator	Domain Members
<b>MANUFACTURING</b>	Dr. Rajesh Rai P	Mr. Prashanth D A, Mr. Nithin Shet, Mr. Prasad B G Mr. Vijay Kumar H K,
<b>THERMAL</b>	Dr. Vighnesha Nayak	Dr. Sreejith B K, Mr. Prakhyath, Mr. Karthik A V
<b>DESIGN</b>	Mr. Sunil Kumar S	Mr. Sudheer Kini, Mr. Harold J D'Souza

Sl No	Sub Domain Name	Members
1	Additive Manufacturing, CIM	Dr. Rajesh Rai P, Mr. Prasad B G
2	Composite and Polymers	Mr. Prashanth D A
3	Fuel Cell	Mr. Nithin Shet
4	Alternative Fuels, Combustion	Dr. Vighnesha Nayak
5	Wind Energy, Heat Transfer	Dr. Sreejith B K
6	Solar Energy, Heat Transfer	Mr. Prakhyath, Mr. Karthik A V
7	Fatigue, Machine Design	Mr. Sudheer Kini K, Mr. Sunil Kumar
8	Composite Design, CIM	Mr. Vijay Kumar
9	FEA, Vibration	Mr. Harold J D'Souza,

## Funds and Grants

Grants or funds received for the selected final year student project groups in 2020.

Sl No.	Project Title	Funded By & Amount	Guide Name	Project Members
1	Performance, Combustion and Emission Characteristics of Single Cylinder CI Engine With WCO Biodiesel and Nanoparticles	KSCST Rs. 5000/-	-DR. VIGNESHA NAYAK -MR. KARTHIK A.V.	MOHAMMED SUHAIL, HAMMABBA ANSHIF, MAHAMMED ASHIK, RASIK AHAMED
2	Financial Assistance for Innovative Projects Under VTU Grant, Theme: Solid waste management, Title: Design and Fabrication of waste segregator using Delta Robot	VTU Grant Rs. 5000/-	-MR. VIJAY KUMAR H. K. -MR. HAROLD J D' SOUZA	MAHAMMAD MUFEEZ (TL) PAVAN I K ANU MATHEW NAVANITH SHETTY
3	Financial Assistance for Innovative Projects Under VTU Grant, Theme: Military and Defence applications, Title: GARUDA - Recon and Attack Drone	VTU Grant Rs. 5000/-	-DR. RAJESH RAI P. -MR. SUDHEER KINI K	SOURABH A S (TL) VARUNCHAND S AKHIL THOMAS PUNITH RAJ NAIK J

TL: Team Leader

## Student Achievements



Student Name	Semester	SGPA
<b>AKHIL THOMAS</b>	<b>VII</b>	<b>8.21</b>



Student Name	Semester	SGPA
<b>MUHAMMED FAIZAL</b>	<b>VII</b>	<b>7.67</b>



Student Name	Semester	SGPA
<b>VIKAS</b>	<b>V</b>	<b>8.54</b>



Student Name	Semester	SGPA
<b>SHAILESH AITHAL</b>	<b>V</b>	<b>8.50</b>



Student Name	Semester	SGPA
<b>DEEPA A S</b>	<b>III</b>	<b>9.35</b>



Student Name	Semester	SGPA
<b>HARSHITH SHETTY</b>	<b>III</b>	<b>8.42</b>

## Students Certification

Student Name	Course Name	Duration
Bhuvanesh R Mallya	One Day Workshop on Pneumatics Technologies and Robotics	One Day
Bhuvanesh R Mallya	Two Day Workshop on CFD on Open FOAM	Two Day
Shailesh V Aithal	One Day Workshop on Pneumatics Technologies and Robotics	One Day
Shailesh V Aithal	Two Day Workshop on CFD on Open FOAM	Two Day

## Sports, Cultural and Technical Events

Student Name	Event	Venue
Dheeraj	Participated in Robo Soccer	AJ institute of engineering and technology
Sharan Chandrahas	Won Second place in Clay model	Sridevi institute of technology, Kenjar
Sharan Chandrahas	Participated in Quiz	Sridevi institute of technology, Kenjar
Sharan Chandrahas	Participated in Robo Soccer	AJ institute of engineering and technology
Vaishnav Baliga	Participated in Robo Soccer	AJ institute of engineering and technology
Adith A K	Participated in Pencil sketching	Sridevi institute of technology, Kenjar
Adith A K	Participated in Collage	Sridevi institute of technology, Kenjar
Deepa A S	Participated in paper presentation	Sridevi institute of technology, Kenjar
Deepa A S	Participated in dumb charades	Sridevi institute of technology, Kenjar



Deepa A S	Participated in Quiz	Sridevi institute of technology, Kenjar
Deepa A S	Participated in paper presentation	Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal
Vighnesh R Pai	Participated in dumb charades	Sridevi institute of technology, Kenjar
Vighnesh R Pai	Participated in Quiz	Sridevi institute of technology, Kenjar
Shrujan J Rai	Participated in dumb charades	Sridevi institute of technology, Kenjar
Shrujan J Rai	Participated in Quiz	Sridevi institute of technology, Kenjar
Shrujan J Rai	Participated in Clay model	Sridevi institute of technology, Kenjar
Shrujan J Rai	Participated in Robo Soccer	AJ institute of engineering and technology
Harshith Shetty	Participated in Robo Soccer	AJ institute of engineering and technology
Harshith Shetty	Participated in dumb charades	Sridevi institute of technology, Kenjar
Harshith Shetty	Participated in Antakshari	Sridevi institute of technology, Kenjar
Harshith Shetty	Participated in Robo-wars	Sridevi institute of technology, Kenjar
Harshith Shetty	Participated in Treasure Hunt	Sridevi institute of technology, Kenjar
Manish K Anchan	Participated in dumb charades	Sridevi institute of technology, Kenjar
Manish K Anchan	Participated in Antakshari	Sridevi institute of technology, Kenjar
Manish K Anchan	Participated in Robo-wars	Sridevi institute of technology, Kenjar
Manish K Anchan	Participated in Treasure Hunt	Sridevi institute of technology, Kenjar
Manish K Anchan	Participated in Robo Soccer	AJ institute of engineering and technology

## Faculty Achievement

### FACULTY PUBLICATIONS

- ☛ Sunil Kumar S.et al., “Mechanical Response of EN24T and EN36 Steels Subjected to Corrosion” in the international Scopus indexed Journal - Solid State Technology.
- ☛ Sunil Kumar S.et al., “Estimation of fracture toughness (KIC) using Charpy impact test for Al6061T6 and Al7075T6 alloys subjected to corrosion” in the international Scopus indexed Journal- Materials Today under ELSEVIER publications.

### Faculty development Program

- Mr. PRAKHYATH has completed ONE WEEK FDP ON STEPPING TOWARDS PROBLEM AND PROJECT BASED LEARNING FOR ACADEMIC EXCELLENCE-june 2020.
- Mr. PRAKHYATH has completed Online training on Effective utilization for research publication through Knimbus digital library-JUNE 2020.
- Dr. SREEJITH B. K. has completed one day webinar on “Virtual Reality Applications in the Real World” - 4th June 2020.
- Dr. SREEJITH B. K. has completed a five days FDP on “Research Trends in Thermal Engineering -2020”, 9-13 June 2020.
- Mr. KARTHIK- Webinar on “How to write Scientific Paper” on 29/05/2020.
- Mr. KARTHIK-FDP on “Advances in Mechanical Engineering and Manufacturing processes” - on 11/05/2020 13/05/2020.
- Mr. KARTHIK-Five day FDP on Research Trends in Thermal Engineering- 2020- 9/6/2020 to 13/6/2020.
- Mr. SUDHEER KINI has completed Three day FDP on "Fracture Mechanics (FM-2020)"-24/06/2020 - 26/06/2020.

- Mr. SUDHEER KINI K has completed One week FDP program on “Stepping towards problem and project based learning for academic excellence”-9/06/2020 - 13/06/2020.
- Mr. SUDHEER KINI K has completed 12 Weeks (Jan- April 2020) NPTEL FDP on NBA Accreditation and Teaching - Learning in Engineering (NATE).
- Dr. VIGHNESHA NAYAK has completed 12 Weeks (Jan- April 2020) NPTEL FDP on NBA Accreditation and Teaching - Learning in Engineering (NATE).
- Mr. PRASAD B G has completed 12 Weeks (Jan- April 2020) NPTEL FDP on NBA Accreditation and Teaching - Learning in Engineering (NATE).
- Mr. SUNIL KUMAR S has participated in, Ministry of Human Resource Development, Govt. of INDIA sponsored, AICTE Recognized FDP on "NBA Accreditation of Engineering Programs" organised by National Institute of Technical Teachers Training and Research, Chandigarh from 11-05-2020 to 15-05-2020.
- Mr. SUNIL KUMAR S has participated in AICTE Recognized FDP on "Python" organised by JSSATE, Noida under Spoken tutorial project, IIT, Bombay from 22-06-2020 to 04-07-2020.
- Mr. SUNIL KUMAR S has participated in FDP on "Fracture Mechanics" organised by PESITM, Shivamogga from 24-06-2020 to 26-06-2020.
- Mr. SUNIL KUMAR S has participated in FDP on ""SUSTAINABLE ENERGY SOLUTIONS IN SOLAR ENERGY APPLICATIONS" organised by MITE, Moodabidri from 23-06-2020 to 27-06-2020.
- Mr. HAROLD DSOUZA attended Webinar on "Problem Formulation in research"" organised by Kongu Engineering College, Tamilnadu on 03/06/2020.
- Mr. HAROLD DSOUZA attended Webinar on “A basic course on Understanding 3D Printing" organised by Karunya Institute of Technology and Science, Tamilnadu on 07/05/2020.



# Department of Mechanical Engineering



**A. J. Institute of Engineering and Technology**

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